Federal Productivity Measurement Project

Fiscal Year 1979 Agency Instruction Package

Contents

This report has been cleared in accordance with FPMR 101-11.11 and assigned interagency report control number 0169-CSC-AN.

Approved For Release 2002/04/01 : CIA-RDP82-00357R000300050056-7

I. INTRODUCTION

This data call represents a continuation of the permanent system to collect and analyze productivity data for the Federal sector. Last year, 347 organizational units participated in the Federal productivity project by submitting output and input data to the Bureau of Labor Statistics (BLS). The data they provided covered 65 percent (1.8 million employee-years) of the civilian Executive branch. Analysis of FY 78 data can be found in the Annual Productivity Report.

For the purpose of this system, productivity is defined as the efficiency with which an organization's resources are utilized to produce final outputs. OPM defines productivity in the Federal sector much more broadly, however. OPM believes that productivity in the Federal government must be defined as the combination of the efficiency, effectiveness and responsiveness with which the government carries out its functions. This system attempts to measure only the component of efficiency. OPM will be engaged in efforts, jointly with BLS, OMB and the agencies, to develop measures of effectiveness and responsiveness. In the meantime, the continuation and improvement of the system to measure efficiency is essential to the development of a more credible and useful measurement system. Specifically, productivity in this system is expressed as the ratio between the volume of goods or services produced (output) and the quantities of labor resources consumed in its production (employee-year inputs). This ratio is translated into an index with the first year's data referenced at 100. Subsequent yearly changes in the ratio are readily analyzed by comparing the current index with the base year, reference index.

For an organization producing a single uniform product or performing a single uniform service, the productivity index simply measures the change over time of the ratio of units produced to total direct and indirect employee-years expended to produce this output. However, for organizations producing several types of products, a composite output index must be contructed through the use of base-year unit employee-year weights. The quantity of each product produced each year is weighted (i.e. multiplied) by the employee-years required to produce one unit of output in the base year. Thus, those products which required more unit labor time to produce in the base-year are given more importance or greater weight in the composite output measure. These base-year weights are constructed by BLS from the detailed data provided by each organization participating in this project. When detailed data are unavailable, outputs are combined with estimated weights using other information supplied by each organization.

Data for this submission can be extracted from existing management information systems already in place within your agency or department. Organizations are encouraged to use Zero-Base Budget data when appropriate to supplement submissions. An agency that has been reporting productivity data at the agency level may also want productivity indexes for one of its more detailed decision units, for example, a field office, program or activity that would be useful to line managers. These productivity measures can be provided by BLS in addition to the measures

already generated in the system. If questions arise concerning data submission, BLS analysts are available to assist each agency with technical details.

II. REPORTING PROCEDURES

Productivity data are to be reported on six separate documents (Exhibits A through F). Following is a brief summary of exhibit contents and due dates for submissions. More detailed information on each exhibit can be found on pages 6 through 14.

Each organizational unit should submit its data package to the agency principal who will forward it to BLS before the key dates indicated below.

A. Key Dates

Jan. 31	Exhibit A - Name of agency principal and listing of agency elements, employee-year inputs and number of outputs submitting data to the system.
Feb. 15	Exhibit B - Revision, expansion, or modification of last year's submission of Exhibit B which describes in narrative form all organizational elements within the agency.
Feb. 15	Exhibit C - Listing of output, input and personnel compensation data for each activity.
Feb. 15	Exhibit D - Response to questions on data submitted in Exhibit C concerning time required to produce a unit of output, responsiveness, quality of outputs, extent of contracting, and extreme changes in outputs and inputs.
June 2	Closing date for data revisions
June 2	Exhibit E - Narrative on factors contributing to changes in productivity.
June 2	Exhibit F - Verification of data returned to agency by BLS.

B. Project Mailing Address

James Urisko
Office of Productivity and Technology
Bureau of Labor Statistics
Room S-4320
200 Constitution Avenue, N.W.
Washington, D.C. 20212 (or stop # 167)

C. Contact for Technical Assistance

Questions concerning this instruction package or technical assistance regarding productivity measurement should be directed to James Urisko, BLS, project manager or individual agency analysts (listed in Appendix A).

Questions concerning the Federal Productivity Program or technical assistance relative to the development of performance and productivity measurement systems will be provided by Allan S. Udler, OPM, or individual agency analysts (listed in Appendix B).

D. Summary of Major Changes in Data Call

Exhibit E format has been modified and new questions concerning initiatives in productivity enhancement as a result of the Civil Service Reform Act have been added.

III. DATA REPORTING INSTRUCTIONS

A. Project Definitions

1. Agency principal: The primary contact between an agency (and its organizational units) and the BLS project team. This individual will be responsible for collecting each exhibit from all organizations of the agency and submitting these exhibits by the target dates indicated on page 2.

2. Agency: Departments and establishments of the Executive branch (e.g., Department of Labor or the Veteran's Administration).

3. Organizational Unit: An organization within an agency which may be as small as a division or decision unit or as large as an entire agency (e.g., Bureau of Labor Statistics, the Federal Aviation Administration, or the personnel division within a department).

4. Outputs: The products and services produced by an organizational unit. Final outputs are produced by the reporting organization and consumed by outside organizations or individuals. Intermediate outputs are produced and consumed by the reporting organization.

5. Measurable Activities: The activities of an organizational unit for which final outputs and their corresponding employee-year inputs can be quantified.

6. Non-measurable Activities: The activities of an organization for which final outputs cannot be adequately quantified.

7. Employee-years: The measure of labor resources devoted to producing the outputs of an organizational unit. An employee-year includes regularly scheduled time, overtime, and leave time of all full-time, part-time, and intermittent employees. One employee-year equals 2080 paid hours (i.e., the equivalent of one individual paid for 40 hours a week for 52 weeks).

(A) Employee-years associated with final measured outputs: The total employee-years required to produce the final outputs which the organization has been able to quantify. Each employee-year figure should include not only the direct employee years required to produce the output, but also the indirect efforts without which the output could not have been produced, e.g., clerical, typing, supervisory, secretarial, and administrative efforts. In the event that indirect time cannot be allocated to specific final outputs, they should be reported in the category of "employee-years associated with administration and support."

(B) Employee-years associated with final non-measured outputs: The direct and indirect employee-years required to produce final outputs which cannot be quantified.

(C) Employee-years associated with administration and support: The indirect employee-years required to provide executive direction and other general services (such as typing) which cannot be allocated to the final outputs of the organizational unit.

8. Compensation: Wages (personnel service costs) and fringe dollar benefits (personnel benefits costs, e.g., life and health insurance), including separation costs (i.e., severance pay and terminal leave). The data should match those provided under OMB Circular A-11 (object classes 11 and 12).

B. Criteria for Choosing Output Indicators

1. Each output measure should consist of units which are relatively homogeneous with respect to their labor requirements.

2. Outputs generally should be repetitive. Non-repetitive final outputs can be included in the data base but require special treatment, i.e., estimates of base-year weights.

3. Outputs indicators should directly reflects the workloads of the organizational unit.

4. Output measures should reflect changes in output quality.

5. Output measures should indicate the amount of work done during each fiscal year.

6. Output measures should reflect the final products and services of an organization.

For more detailed instructions on methods of choosing output indicators see Appendix C. Should any questions arise concerning these criteria, contact BLS for assistance.

IV. REQUIRED DATA EXHIBITS

1. Exhibit A: Due Date: Jan. 31

This exhibit provides an overview of each agency and identifies all agency organizational units (i.e., those which have measurable activities and those which do not).

Exhibit A: Listing of agency organizations for FY 79

Date submitted:
Name of agency:
Agency Principal:
Phone:
Mailing Address 1/:
Agency Alternate:
Phone:

Name of Organization	Total FY 1979 Employee-Years 2/	Number of Outputs to be Submitted
1.		
2.		
.		
.		
.		
.		
.		
.		
.		
.		
.		
.		
.		
.		
.		
N.		
total agency		

1/ Include stop number

2/ Employee-years for this exhibit should be based on the definition used in CSC Bulletin 298-2, formerly OMB Circular A-93.

2. Exhibit B: Date Due: Feb. 15

Exhibit B provides a narrative description of each measured and non-measured organizational unit within an agency. BLS is returning to you FY 78 Exhibit B data that you can revise, expand or otherwise modify.

Each organizational unit should submit one of the following:

Exhibit B-1: Description of organizational units with measurable activities (for units already in the data base). Please use the computer printout provided for your submission.

Exhibit B-2: Description of new organizational units with measurable activities (for units not in the data base).

Exhibit B-3: Description of organizations with no measurable activities.

If there are no changes to the BLS computer printout returned to you please state so.

Exhibit B-2: Due Date: Feb. 15

Exhibit B-2: Description of new organizational unit with measurable activities (for units not in the data base).

Date submitted:
Name of Agency:
Name of organizational unit:

Mission of organizational unit:

	Measurable Activity	Description of Activity	Output Indicator
1.			
2.			
3.			
.			
.			
.			
.			
.			
N			

	Non-measurable Activity	Description of Activity	Reason Why Outputs Cannot Be Measured
1.			
2.			
3.			
.			
.			
.			
.			
.			
N			

Exhibit B-3: Due Date: Feb. 15

Exhibit B-3: Description of organizational unit with no measurable activities

Date submitted:
Name of agency:
Name of organizational unit:

Mission of organizational unit:

Non-measurable Activity	Description of Activity	Reason Why Outputs Cannot Be Measured
1.		
2.		
3.		
.		
.		
.		
.		
.		
N		

3. Exhibit C: Due Date: Feb. 15

Exhibit C: This exhibit provides FY 1979 quantitative data on the outputs, employee-years and personnel compensation for each organizational unit having at least one output that can be measured. Each organizational unit should submit one of the following:

Exhibit C-1: Organizational units that submitted data last year should use the attached Exhibit C form. Corrections to FY 1977-1978 data and/or inclusion of new outputs should be submitted separately. Indicate whether any data are estimated and submit the final numbers as soon as they are available. Any change in the method of measuring an output should be reported on both the old and the new basis. If a reorganization has taken place, all data for FY 1977 forward should be presented on a consistent basis. Please use the forms provided for your data submission.

Exhibit C-2: Organizational units reporting data for the first time should use the following format:

Date submitted:
Name of agency:
Name of organizational unit:

	Output Quantities	Employee-Years Expended	Personnel Compensation
Data for Measured Activities			
1. (Output indicator)	X	X	X
2. (Output indicator)	X	X	X
.			
.			
.			
N. (Output indicator)	X	X	X
Subtotal		X	X
Data associated with final non-measured activities		X	X
Data associated with administration and/or support activities		X	X
Grand totals		X	X

4. Exhibit D: Due Date: Feb. 15

Exhibit D: This exhibit requires responses to a number of questions concerning the data provided in Exhibit C. These responses will be used by the BLS project team in evaluating the input and output data and interpreting results of overall functional trends.

Exhibit D: Responses to support questions

Date submitted:
Name of agency:
Name of organizational unit:

For each organizational unit with measurable activities (i.e., organizational unit submitting an Exhibit C), responses to the following support questions are required:

1. Show the typical low, high and average total labor time required in FY 1979 to produce one unit of each measured output. If actual data are not available, an educated estimate is acceptable.

2. Indicate the average total time which elapses from the time one unit of each measured output commences production to the time it is considered completed. This includes production time and any intervening slack time. If actual time is not available, an educated estimate is acceptable.

3. Has the quality of any of the outputs changed during the time period? If yes, describe, by output, the nature of the change and when it occurred.

4. Has a contractor contributed to the production of any reported output? If yes, explain the nature and extent of the contractor's efforts.

5. Have there been extreme movements in the output or input indicators during FY 1979? If yes, explain the nature and causes of such movements.

5. Exhibit E: Due Date: June 2

Exhibit E provides documentation on the individual factors directly or indirectly contributing to changes in productivity indices which have been computed by BLS with the data submitted on Exhibit C.

Each organizational unit is requested to provide information on the causes of changes in these productivity indexes according to the following format:

Exhibit E:

Date submitted:
Name of agency:
Name of organizational unit:

1. Factors Causing a Change in Productivity

2. Productivity Outlook

3. Implementation of Productivity Improvement Programs as a result of the Civil Service Reform Act.

Organization representatives should consult with other individuals within the organization, including representatives from line management, personnel, budget and labor unions. Agencies with unions having exclusive bargaining rights must consult them on responses to this exhibit prior to submission.

1. Factors Causing a Change in Productivity

The causes for productivity increases and descreases for the entire period (FY 1967-79) should be discussed for each organizational unit in order to explain the reasons for the long-term productivity trend. Causes for productivity change during FY 1979 should be identified separately. The causes of productivity change such as motivation, skill, technology, work environment, procedural changes and others should be described. In some cases, measurement problems may affect the productivity index (e.g. product mix). Describe any measurement problems that are reflected in the productivity trends. It is most important that the causes of change be identified as specifically as possible.

It may be appropriate for an organizational unit to identify obstacles to productivity improvement even though it experienced a productivity increase. For example, an organization that increased productivity 7 percent because of a change in work procedures might have had a 10 percent increase if a new computer system had been installed on schedule. In that case, both factors should be discussed.

2. Productivity Outlook

   a. Describe the productivity changes expected in FY 1980.

   b. Describe the productivity trends expected in the next several years.

   c. Describe future actions planned by the organizational element which are expected to improve productivity.

3. Implementation of Productivity Improvement Programs as a result of the Civil Service Reform Act

   a. What activities are agencies engaged in to improve productivity that were triggered by the CSRA?

   b. Has productivity improved over the last year?

   c. What productivity measures have been established due to the emphasis triggered by the reform act?

   d. How many staff-years are now devoted to improving the productivity program within your agency?

   e. How many staff-years are devoted to responding to this data call?

6. Exhibit F: Due Date: June 2

Exhibit F: Verification of FY 1979 data returned to you by BLS

Date submitted:
Name of agency:
Name of organizational unit:

1. Are the basic data on output, employee-years, and compensation correct as shown on the computer printout?

   ( ) Data are correct as shown.
   ( ) The following changes should be made:

2. Do the employee-year productivity indexes appear to be representative of productivity trends within the organizational element?

   ( ) Indexes are representative
   ( ) Other comments

Appendix A:

Bureau of Labor Statistics Agency Analysts

Mr. Edwin Adelman 523-9317

Army Corps of Engineers
Civil Aeronautics Board
Environmental Protection Agency
Export - Import Bank
Farm Credit Administration
Department of Interior
International Communications Agency
Agency for International Development
Department of Justice
Library of Congress
National Transportation Safety Board
Postal Service
Railroad Retirement Board
Department of State
Department of Transportation
U.S. Soldiers' Airmen's Home

Mrs. Darlene Forte 523-9315

Community Services Administration
Department of Energy
Department of Education
Federal Deposit Insurance Corporation
Federal Mediation and Conciliation Service
Federal Trade Commission
General Service Administration
Department of Health, Education and Welfare
Department of Housing and Urban Development
National Aeronautics and Space Administration
National Credit Union Administration
National Labor Relations Board
Nuclear Regulatory Commission
Securities and Exchange Commission
Tennessee Valley Authority

Mr. Arthur Young 523-9354

American Battle Monuments Commission
Arms Control and Disarmament Agency
Department of Commerce
Commodity Futures Trading Corporation
Department of Defense
Federal Communications Commission
Federal Maritime Commission
General Accounting Office
Government Printing Office
International Trade Commission
Merit Systems Protection Board
Occupational Safety and Health Review Commission
Panama Canal Company
Office of Personnel Management
Veterans Administration

Mr. Gary Burdette 523-9316

Action
Department of Agriculture
Commission on Civil Rights
Consumer Product Safety Commission
Equal Employment Opportunity Commission
Federal Election Commission
Federal Home Loan Bank Board
Foundation on the Arts
Foundation on the Humanities
Interstate Commerce Commission
National Science Foundation
Small Business Administration
Department of the Treasury

Appendix B :

Office of Personnel Management Agency Analysts

Martin Berman 632-5558

Department of Commerce
Consumer Product Safety Commission
Environmental Protection Agency
Farm Credit Administration
Department of Housing and Urban Development
Department of Labor
Office of Personnel Management
Panama Canal Company
Railroad Retirement Board

Martin Flaherty 632-5558

Department of Defense
Federal Communications Commission
Federal Home Loan Bank Board
Federal Maritime Commission
Federal Mediation and Conciliation Service
Federal Trade Commission
International Communications Agency
International Trade Commission
Interstate Commerce Commission
Postal Service
Renegotiation Board

Jeanne M. O'Leary 632-5558

Department of Agriculture
Department of Energy
Export - Import Bank
Department of Health, Education and Welfare
National Science Foundation
National Transportation Safety Board
Securities and Exchange Commission
Small Business Administration
Department of Transportation

Michael Hoefer 632-5558

American Battle Monuments Commission
Civil Aeronautics Board
General Accounting Office
Government Printing Office
Library of Congress
National Aeronautics and Space Administration
National Foundation on the Arts
National Foundation on the Humanities
Nuclear Regulatory Commission
Department of the Treasury

Kay Monte-White 632-5558

Community Services Administration
General Services Administration
Department of the Interior
Department of Justice
National Credit Union Administration
National Labor Relations Board
United States Courts
Veterans Administration

Approved For Release 2002/04/01 : CIA-RDP82-00357R000300050056-7

Appendix C:

Criteria for Selecting Output Indicators

1. Each output measure should consist of units which are relatively homogeneous with respect to their labor requirements. If the output units represented by one output indicator are not homogeneous and if over a period of time the proportion changes between those units that are more labor intensive and those that are less labor intensive (i.e., product mix), the resulting output measure may be seriously distorted. Special efforts should be made to separate outputs which are known to have widely varying labor requirements into two or more output line items.

Example: An organizational unit produces two types of reports:

Output	Base-Year Output Weight	Actual Number of Reports		Weighted Number of Reports	
		FY 1	FY 2	FY 1	FY 2
Type A	10	8	12	80	120
Type B	1	12	6	12	6
Total		20	18	92	126

If only the total number of reports produced is submitted, the output measure would show a decline of 10 percent. However, if each type of report is quantified and appropriately weighted into a composite, then the output measure would show an increase of 37 percent.

2. Outputs generally should be repetitive. Outputs which are produced on a regular basis are generally most amenable to meaningful quantification. Such outputs might be: (1) those which are produced on a regular schedule (e.g., periodic audits or periodic publications), (2) those which are produced in response to frequent requests (e.g., investigations concerning health and safety laws), or (3) those which are produced on a regular, although not a scheduled basis (e.g., a series of bulletins on methods of farming or a series of bulletin on wage patterns for different areas). Non-repetitive final outputs can be included in the data base but require special treatment, i.e., estimates of base-year weights. The BLS should be contacted in these situations.

3. Output indicators should directly reflect the workloads of the organizational unit. When workload data are unavailable, proxy output indicators may be useful. However, such proxy measures should not be used as output indicators unless the workload of the Federal employee depends on and remains proportional to the workloads represented by the proxy.

Example: An organizational unit develops job training programs for veterans, awards contracts to private organizations to run the programs, and monitors the work performed under these contracts. Outputs such as the number of monitoring visits, number of technical inquires answered and number of contracts administered by type of program might be appropriate as indicators of the work performed by the Federal organization. However, the number of veterans trained or the number of employee-years of training delivered would probably be less desirable as indicators of Federal workloads. Since the efforts expended by the Federal workers may not change appreciably whether 100 or 500 people are being trained in a given program.

Example: A personnel office provides a variety of services to employees and potential employees, e.g., promotions processed, classification actions, and inquiries answered. Because these services are utilized in varying degrees by employees and the relative proportion of these services is likely to change over time a proxy indicator such as the number of employees served would not appropriately measure the actual services provided.

4. Output measures should reflect changes in output quality. For purposes of productivity measurement, changes in output quality refer to changes in the basic characteristics of the output which reflect an altered production process with different base-period labor requirements for producing the output, e.g., adding a step in processing a grant. Changes in output characteristics which affect the value of the output to the user but which do not reflect an altered production process or different base-period labor requirements do not require special treatment. For example, the substitution of synthetic fibers for rubber in the manufacture of tires would not be considered a quality change even though the life of the tire may be extended, assuming that the labor requirements did not change. While such changes are certainly an important consideration for the program manager, they do not fall within the definition of output quality when measuring labor productivity.

If productivity indexes are derived from output measures which have not been adjusted for changes in output quality, they will reflect both "real" changes in efficiency and "apparent" changes resulting simply from alterations in the basic characteristics of the output. Thus, when quantifying outputs, it is necessary to identify changes in output quality and to adjust for these changes in order to obtain a meaningful indication of productivity. Such adjustments may take two forms:

(A) Identify when the change in output quality occurred, create a new output category, and estimate the time it would have taken to produce this output in the base year.1/

Example: In FY 3 an organizational unit increased the quality of type B reports by including several new sections and tables. This change could be reported as follows:

Output	Base-Year Output Weight	Number of Reports Produced		
		FY 1	FY 2	FY 3
Type A	2 (calculated)	5	7	8
Type B (old)	1 (calculated)	7	8	-
Type B (new)	1.5 (estimated)	-	-	6

(B) Identify the specific areas of changes in a given output, quantify these areas separately, and estimate the incremental time it would have taken to produce these changes in the base year.

Example: Using the data from the previous example, an alternate method of reporting could be:

Output	Base-Year Output Weight	Number of Reports Produced		
		FY 1	FY 2	FY 3
Type A	2 (calculated)	5	7	8
Type B (old)	1 (calculated)	7	8	6
Type B (new)	0.5 (estimated)	-	-	6

1/ Various techniques are available for estimating base-year weights. The BLS project team should be contacted for assistance.

Example: An organizational unit has been conducting increasingly thorough inspections of food processing plants. Initially, it had only sampled the products of the plants. In FY 2, it also began inspecting equipment at some of these plants. This change could be reported as:

Output	Base-Year Output Weight	Number of Inspections Made FY 1	FY 2	FY 3
Plants Inspected	.004 (calculated)	500	510	520
Equipment Inspected	.001 (estimated)	---	200	400

5. Output measures should indicate the amount of work done during each fiscal year. If outputs with a cycle time extending beyond one year are qauntified only in the year completed, the resulting output index is likely to be erratic and meaningless. For example, if 5 years are required to build a ship, it would be improper to report the production of one ship in the fifth year and zero production (i.e., no work performed) in the first through fourth years. There are two ways to handle these situations:

(A) Establish the total base-year labor requirements for one unit of output and quantify the percentage of an output that has been completed in each year. (Note: This solution applies not only to completed outputs but also to outputs which were initiated during a recent period and which will be completed in some future period. In the case of unfinished outputs, estimate the portion completed during the current time period. These estimates should be revised as additional information becomes available).

Example: If a report took two years to complete and if work was begun at the start of FY 1 and was completed at the end of FY 2, then 1/2 unit of output would be credited to FY 1 and 1/2 unit to FY 2--assuming that the effort expended in each year was approximately equal. If in this example the work began in mid-FY 1, then FY 1 would be credited with 1/4 report completed, FY 2 with 1/2 report, and FY 3 with 1/4 report.

(B) Identify the major steps required to complete the output and count the number of steps completed each year rather than the final output.

Example: An organization studies the nation's industries and produces three major documents, each of which takes from two to three years to complete. The first document reports on technology in each industry, the second reports on sales and profit trends in each industry, and the third reports on the wages and occupational requirements in each industry. This organization may decide to use as its output indicator the number of industry chapters completed (by type of publication) rather than the number of documents completed. Its output submission thus might be:

Output	Number of Chapters Completed		
	FY 1	FY 2	FY 3
Chapters on Industry Technology	27	31	28
Chapters on Industry Sales and Profits	45	41	42
Chapters on Industry Wages and Occupational Requirements	17	23	30

6. Output measures should reflect the final products and services of an organization. Ideally, a productivity index should relate final outputs to their associated direct and indirect input(s). Therefore, the output data submitted by each organizational unit should be final from the perspective of the organization providing the information (i.e., the outputs that are consumed outside of the reporting organization). Employee-years associated with intermediate outputs (i.e., outputs produced and then consumed by the reporting organization) should be allocated to the final outputs that are produced, or when not possible, should be included with other administration and support employee-years.

Example: A library purchases books and periodicals, catalogs these materials and lends them to individuals and other institutions. The outputs associated with lending activities (i.e., number of books and periodicals lent) are final to the library and should be quantified. However, the outputs associated with acquisition and cataloging activities are intermediate and should not be quantified; the employee-years associated with these activities should be considered support employee-years.

Example: When an output is produced from the joint efforts of regional and headquarters personnel, it should be counted only once. For example, if the regional offices collect data which are used by headquarters to construct statistical series, the number of each type of statistical series produced should be the output measure, and the weights for combining the different types of statistical series should reflect employee-years expended in the base year by the regional offices as well as headquarters.